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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,885	01/15/2004	Edward W. Sheridan	EM- 1989	8465

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EXAMINER	
SAVAGE, JASON L	
ART UNIT	**PAPER NUMBER**
1794	

MAIL DATE	DELIVERY MODE
01/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/759,885	Applicant(s) SHERIDAN ET AL.	
	Examiner Jason L. Savage	Art Unit 1794	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 02 January 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on ___. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: ___. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): ___.
6. ☐ Newly proposed or amended claim(s) ___would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: ___.
   Claim(s) objected to: ___.
   Claim(s) rejected: 1,3-8 and 10-21.
   Claim(s) withdrawn from consideration: ___.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: ___.

Continuation of 7. The amendment to claim 1 would overcome the objection to claims 1, 3-8 and 10-17. However, it was noted that claim 21 also includes the same language which was changed in claim 1. The amendment to the claim would not overcome any of the claim rejections for the reasoning set forth below.

Continuation of 11. does NOT place the application in condition for allowance because: Regarding the claim rejections under 35 USC 112, Applicant argues that non-adducted metaly hydrides is inherent in the disclosure and figures, particularly Figure 4, page 4 lines 22-23 and page 5, lines 20-25. However, Figure 4 shows metal atoms 50 and hydrogen atoms 52. There is no recitation of the metals being non-adducted. Furthermore, the recited portions on pages 4 and 5 recite the liberation or relase of hydrogen gas. As evidenced by Danen, liberation of a reaction product of hydrogen gas can occur through the use of adducted hydrides (col. 5, ln. 36 - col. 6, ln. 2). As such, the assertion that the disclosure provide an inherent basis for the claim limitation of a non-adducted metal hydride is not persuasive.

Regarding the claim rejections under 35 USC 103 to Danen, Applicant argues on page 8 of the Amendment that the process of adducting a hydride would greatly reduce the hydrogen gas formation per unit volume of composition and that the present invention maximizes the hydrogen gas formation. This argument is not commensurate in scope with the claims.

Applicant further argues that the obviousness of the use of pure metal hydrides is only seen after recognition that optimizing hydrogen content is of value and that Applicant's invention is based on the optimization of hydrogen content in a thermitic composition. This argument is not commensurate in scope with the claims which recite a layer comprising the non-adducted metal hydrides and a layer comprising a metal substantially in oxide form having the claimed thickness. Furthermore, as recited in the rejections, Danen teaches reacting materials including aluminum, titanium, magnesium and litium. Danen further teaches hydrides such as an aluminum hydride adduct and the formation of reaction products releasing hydrogen gas (col. 5, ln. 25 - col. 6, ln. 2). As such, the claimed materials and hydrides thereof such as aluminum hydride is taught. It would have been within the purview of one of ordinary skill in the art to have selected any known metal hydride as a meterial layer in the energetic material of Danen with a reasonable expectation of success.

Applicant also argues that Applicant's disclosure is fundamentally a different form of matter that only two layer systems are necessary to be a gas former, a metal hydride and an oxidizer. Applicant further states that the adducted metal hydride described by Danen would not result in a self propagating reaction when used only with the CuO. These arguments are not commensurate in scope with the claims as the claims recite an energy dense energetic material comprising (emphasis added) which would allow for more than two layers of materials and there is no limitation draw to a self-propagating reaction. Furthermore, Danen would read on such limitations were they present in the claims as it recites that the energetic material may be formed by a layer of one reactant being laid down upon the other (2 layer system) although the two layers would partially react forming a self-buggering layer between the two layers (col. 3, ln. 1-4 and 26-33). Danen further teaches that the reaction is self-propagating and that after reaction is initiated, the reaction of a first pair of reactive layers will cause other layers to react (col. 4, ln. 31-37).

Applicant argues that self propagation is a distinguishable and critical difference between Applicant's invention and Danen. For the reasoning set forth above, this argument is not persuasive.

Applicant also argues that the language "and hydrides thereof" does not appear in the referenced patent and is not taught, anticipated or inferred. As described above, Dannen teaches the claimed reacting metals. Danen further teaches a hydride of the metals which is aluminum hydride. As such, Dannen is viewed as teaching the claimed metals and hydrides of the metals.

Applicant further states that the adducted hydride as disclosed by Danen could not be formed by sputtering deposition and would have to be by chemical vapor deposition which provides a distinct manufacturing difference between what Danen teaches and the claims of the disclosure. This argument is not persuasive since only claim 21 has limitations drawn to the method of forming the article and the limitations merely recite 'depositing a layer'. As such, Applicant's assertion that Danen would need to use a chemical vapor deposition method to form the hydride would still meet the limitation of 'depositing a layer...'.

Applicant further asserts that adducted metal hydrides will not form a self propagating reaction. For the reasoning set forth above, this argument is not persuasive. The further assertion that there is a substantial difference in the work potential of the materials is not commensurate in scope with the claims.

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SUPERVISORY PATENT EXAMINER